

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: INVUE

Report Number: P401835

Luminaire Tested: **ENV-SA1F-735-U-SLR-HSS**

Issue Date: 5/20/2020

Test Information

Test Method: LM-79-08
Report Number: P401835
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2004-754-10)
Test Lab: INNOVATION CENTER
Issue Date: 5/20/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: ENV-SA1F-735-U-SLR-HSS
Description: ENTRI LED LUMINAIRE
(1) 70 CRI, 3500K, 1200mA LIGHTSQUARE WITH 16 LEDS AND SPILL LIGHT
ELIMINATOR RIGHT OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5499 lumens
Efficiency: N/A
Efficacy: 83.2 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B1 - U0 - G1

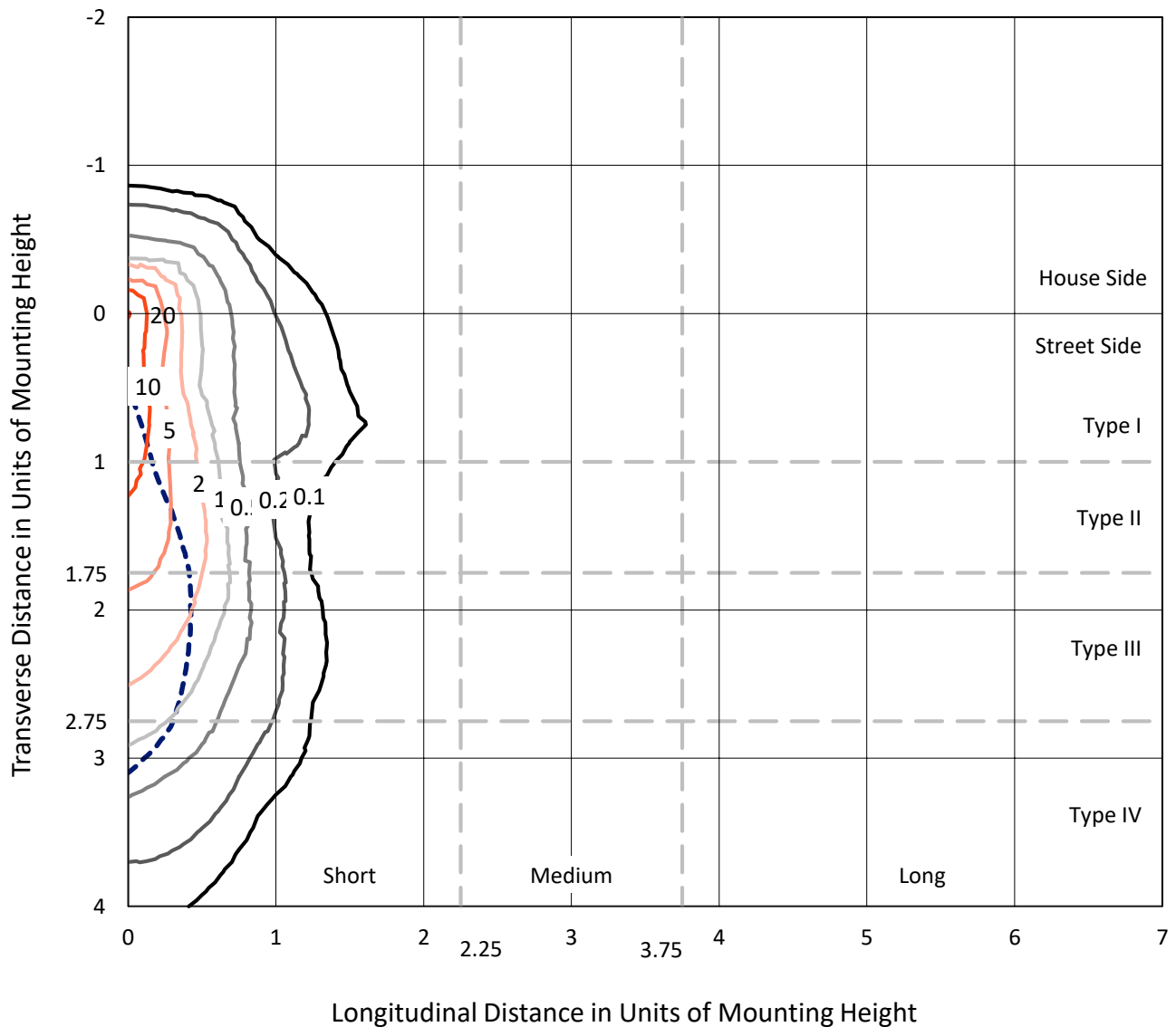
Input Watts (W): 66.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

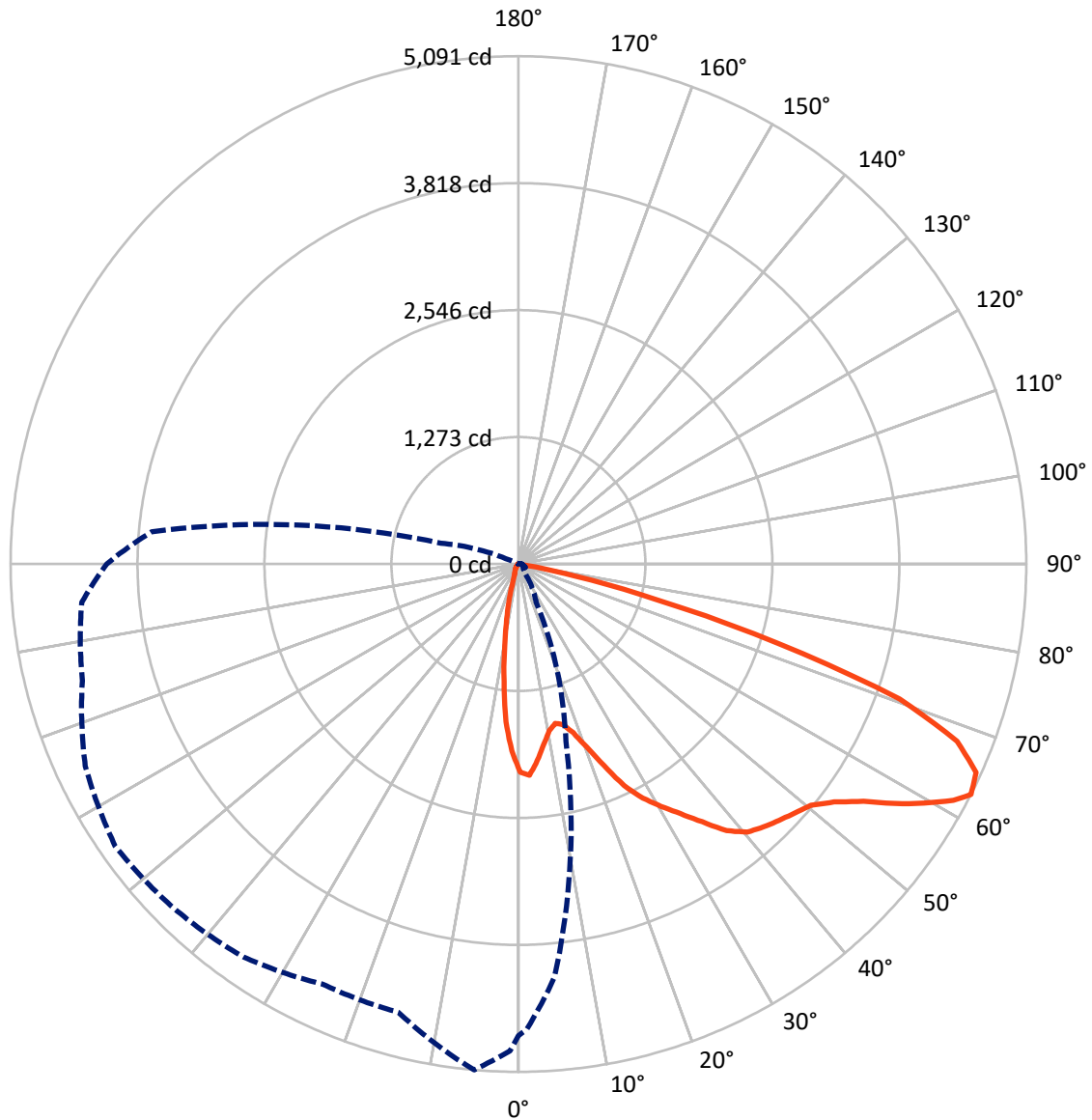
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 20.9 fc
 Type IV - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 355-Deg Lateral - - - Horizontal Cone Through 62.5-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	773.5	0.0	773.5
	% Fixture	14.1	0.0	14.1
Street Side	Lumens	4725.5	0.0	4725.5
	% Fixture	85.9	0.0	85.9
Total	Lumens	5499.0	0.0	5499.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	156.4	2.8
10°-20°	297.3	5.4
20°-30°	413.7	7.5
30°-40°	598.3	10.9
40°-50°	857.9	15.6
50°-60°	1244.6	22.6
60°-70°	1346.6	24.5
70°-80°	543.8	9.9
80°-90°	40.3	0.7
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-90°	5499.0	100.0
0°-180°	5499.0	100.0

Coefficient of Utilization



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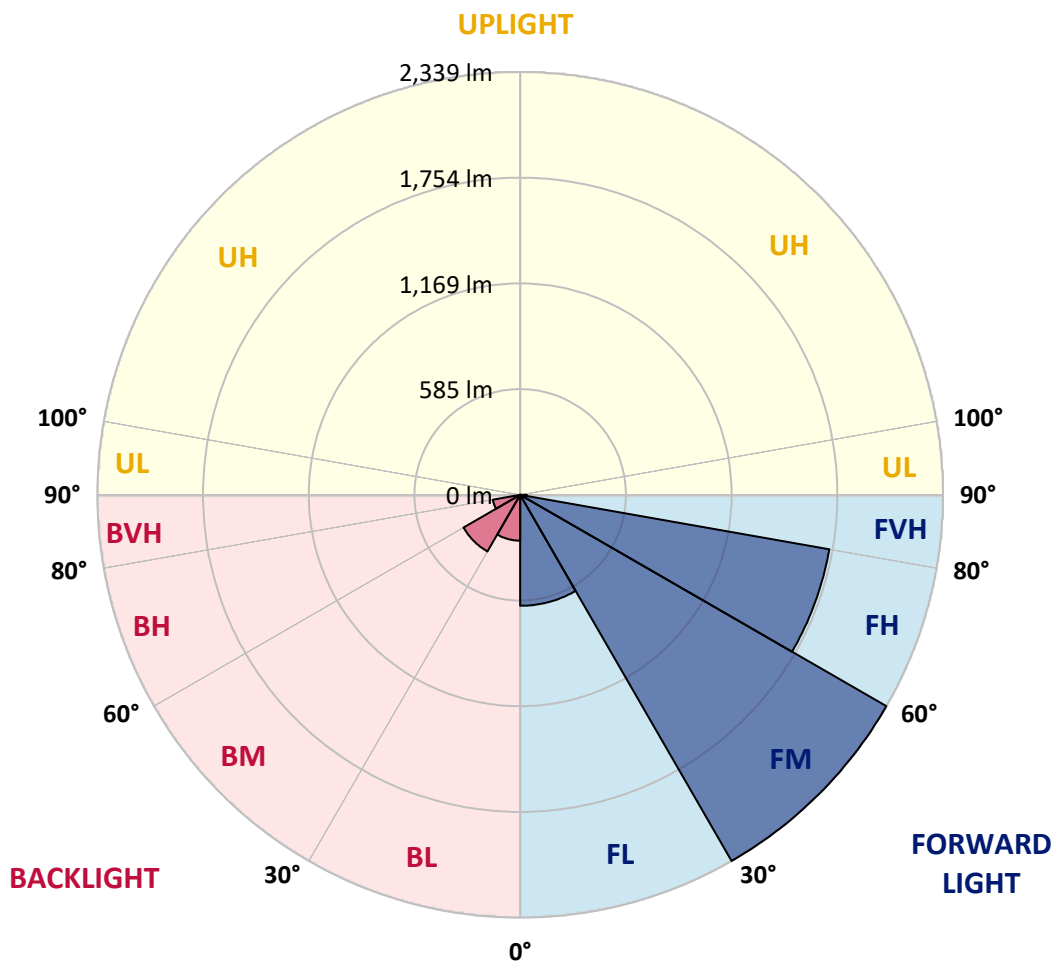
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	613.9	11.2			
FM	(30°-60°)	2338.9	42.5			
FH	(60°-80°)	1736.6	31.6			G1/1800
FVH	(80°-90°)	36.2	0.7			G1/100
BL	(0°-30°)	253.6	4.6	B1/500		
BM	(30°-60°)	361.9	6.6	B1/1000		
BH	(60°-80°)	153.8	2.8	B1/500		G1/500
BVH	(80°-90°)	4.1	0.1			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G1

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	2085.9	2085.9	2085.9	2085.9	2085.9	2085.9	2085.9	2085.9	2085.9	2085.9	2085.9
2.5°	2094.6	2085.9	2066.3	2023.9	1962.9	1923.8	1898.7	1866.1	1832.4	1821.5	1799.7
5°	1911.8	1897.6	1870.4	1763.8	1668.1	1572.3	1503.8	1438.5	1416.7	1373.2	1399.3
7.5°	1735.5	1729.0	1665.9	1527.7	1375.4	1252.4	1174.1	1078.3	1050.0	1005.4	969.5
10°	1597.3	1591.9	1515.7	1335.1	1170.8	1068.5	1006.5	944.5	882.4	819.3	769.3
12.5°	1527.7	1515.7	1427.6	1232.8	1080.5	995.6	930.3	847.6	781.3	696.4	635.4
15°	1538.6	1527.7	1426.5	1216.5	1037.0	919.4	822.6	724.7	631.1	547.3	487.5
17.5°	1625.6	1621.3	1498.3	1230.6	984.7	829.1	699.6	568.0	457.0	366.7	315.5
20°	1795.4	1782.3	1603.9	1261.1	930.3	724.7	547.3	385.2	292.7	230.7	208.9
22.5°	2005.4	1976.0	1770.3	1305.7	878.1	612.6	396.1	259.0	208.9	185.0	169.7
25°	2252.4	2253.5	1977.1	1365.6	825.9	508.1	277.5	205.7	176.3	158.9	145.8
27.5°	2452.6	2437.3	2163.1	1425.4	769.3	416.7	232.9	179.5	154.5	136.0	128.4
30°	2600.6	2577.7	2286.1	1466.8	696.4	352.5	208.9	170.8	145.8	125.1	115.3
32.5°	2752.9	2724.6	2397.1	1489.6	652.9	322.1	185.0	149.1	130.6	121.9	108.8
35°	2931.3	2906.3	2520.0	1487.4	630.0	304.7	167.6	134.9	111.0	96.8	88.1
37.5°	3130.5	3079.3	2647.3	1477.6	613.7	296.0	152.3	125.1	103.4	88.1	77.3
40°	3301.3	3250.2	2764.9	1464.6	602.8	287.3	143.6	118.6	97.9	81.6	70.7
42.5°	3435.1	3386.2	2874.8	1448.3	597.4	268.8	148.0	114.3	93.6	77.3	65.3
45°	3550.5	3500.4	3005.3	1446.1	595.2	255.7	145.8	113.2	91.4	71.8	60.9
47.5°	3684.3	3658.2	3177.2	1482.0	586.5	245.9	133.8	121.9	90.3	69.6	57.7
50°	3882.3	3859.5	3402.5	1588.6	573.4	236.1	121.9	133.8	90.3	67.5	54.4
52.5°	4159.8	4133.7	3757.2	1727.9	561.5	225.2	109.9	129.5	91.4	64.2	52.2
55°	4447.1	4442.7	4092.3	1875.9	550.6	201.3	96.8	116.4	89.2	59.8	49.0
57.5°	4672.3	4669.0	4343.7	1976.0	529.9	162.1	88.1	96.8	82.7	54.4	44.6
60°	4764.8	4737.6	4370.9	1976.0	482.0	133.8	80.5	76.2	83.8	49.0	39.2
61°	4764.8	4730.0	4321.9	1946.6	458.1	127.3	76.2	70.7	86.0	46.8	37.0
62.5°	4727.8	4670.1	4154.4	1841.1	420.0	127.3	69.6	63.1	78.3	44.6	33.7
65°	4563.5	4468.8	3761.6	1600.6	380.8	130.6	59.8	53.3	56.6	38.1	29.4
67.5°	4157.6	4051.0	3252.3	1266.5	349.3	138.2	50.1	46.8	43.5	33.7	26.1
70°	3425.3	3335.0	2653.9	948.8	324.3	140.4	43.5	39.2	37.0	29.4	22.9
72.5°	2189.3	2040.2	1657.2	643.1	260.1	121.9	35.9	37.0	33.7	23.9	18.5
75°	1057.6	1099.0	964.1	324.3	175.2	79.4	28.3	30.5	27.2	21.8	16.3
77.5°	473.3	464.6	460.3	82.7	44.6	27.2	17.4	20.7	21.8	19.6	14.1
80°	49.0	66.4	39.2	25.0	16.3	12.0	9.8	10.9	13.1	14.1	7.6
82.5°	2.2	1.1	1.1	3.3	3.3	2.2	0.0	0.0	2.2	2.2	1.1
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2085.9	2085.9	2085.9	2085.9	2085.9	2085.9	2085.9	2085.9	2085.9	2085.9	2085.9
2.5°	1780.1	1809.5	1796.5	1793.2	1810.6	1801.9	1828.0	1829.1	1848.7	1874.8	1891.1
5°	1399.3	1376.4	1422.1	1452.6	1490.7	1478.7	1524.4	1519.0	1544.0	1585.4	1569.0
7.5°	971.7	974.9	998.9	1026.1	1128.4	1149.0	1164.3	1176.2	1175.1	1184.9	1202.3
10°	743.2	724.7	708.4	746.4	786.7	831.3	837.8	854.2	809.5	828.0	836.7
12.5°	608.2	586.5	550.6	531.0	540.8	566.9	577.8	587.6	561.5	562.5	582.1
15°	461.4	432.0	417.8	391.7	381.9	379.7	385.2	371.0	367.8	355.8	363.4
17.5°	300.3	291.6	284.0	278.6	270.9	268.8	249.2	215.4	195.9	191.5	191.5
20°	200.2	193.7	193.7	204.6	201.3	192.6	166.5	138.2	124.0	119.7	121.9
22.5°	164.3	160.0	153.4	153.4	157.8	151.2	127.3	106.6	96.8	96.8	96.8
25°	142.5	140.4	133.8	127.3	129.5	124.0	103.4	90.3	83.8	82.7	83.8
27.5°	125.1	124.0	116.4	109.9	109.9	105.5	89.2	77.3	72.9	70.7	71.8
30°	113.2	111.0	102.3	96.8	95.8	91.4	76.2	67.5	63.1	62.0	62.0
32.5°	104.5	100.1	92.5	87.0	83.8	77.3	66.4	57.7	53.3	52.2	52.2
35°	83.8	83.8	80.5	77.3	72.9	63.1	55.5	47.9	43.5	42.4	42.4
37.5°	72.9	68.6	63.1	64.2	62.0	53.3	45.7	38.1	34.8	33.7	33.7
40°	66.4	60.9	53.3	50.1	51.1	46.8	38.1	29.4	25.0	26.1	25.0
42.5°	59.8	55.5	46.8	39.2	38.1	39.2	29.4	20.7	17.4	17.4	17.4
45°	55.5	51.1	41.3	32.6	27.2	30.5	22.9	14.1	10.9	10.9	10.9
47.5°	52.2	47.9	37.0	27.2	19.6	20.7	16.3	8.7	6.5	4.4	5.4
50°	50.1	44.6	33.7	21.8	14.1	12.0	10.9	4.4	1.1	1.1	0.0
52.5°	46.8	42.4	30.5	18.5	10.9	7.6	5.4	1.1	0.0	0.0	0.0
55°	44.6	39.2	27.2	16.3	8.7	4.4	1.1	0.0	0.0	0.0	0.0
57.5°	40.3	35.9	23.9	13.1	6.5	2.2	0.0	0.0	0.0	0.0	0.0
60°	35.9	32.6	20.7	9.8	4.4	0.0	0.0	0.0	0.0	0.0	0.0
61°	33.7	30.5	19.6	8.7	3.3	0.0	0.0	0.0	0.0	0.0	0.0
62.5°	31.6	28.3	17.4	6.5	2.2	0.0	0.0	0.0	0.0	0.0	0.0
65°	27.2	23.9	15.2	4.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
67.5°	23.9	21.8	13.1	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70°	20.7	18.5	9.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
72.5°	17.4	16.3	7.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	15.2	13.1	6.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	12.0	10.9	5.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	6.5	5.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	2085.9	2085.9	2085.9	2085.9	2085.9	2085.9	2085.9	2085.9	2085.9	2085.9	2085.9
2.5°	1906.3	1944.4	1980.3	2026.0	2051.1	2119.6	2168.6	2209.9	2242.6	2249.1	2275.2
5°	1612.6	1665.9	1700.7	1796.5	1849.8	1964.0	2052.2	2156.6	2250.2	2301.3	2348.1
7.5°	1214.3	1240.4	1300.3	1396.0	1522.3	1621.3	1770.3	1902.0	2070.7	2163.1	2250.2
10°	857.4	881.4	969.5	1069.6	1184.9	1351.4	1532.0	1705.1	1875.9	1994.5	2096.8
12.5°	602.8	681.1	768.2	895.5	1008.7	1130.5	1323.1	1525.5	1738.8	1851.9	1962.9
15°	396.1	465.7	586.5	746.4	887.9	1006.5	1186.0	1423.2	1694.2	1820.4	1925.9
17.5°	195.9	247.0	353.6	525.6	713.8	900.9	1117.5	1404.7	1751.8	1894.4	1993.4
20°	123.0	138.2	177.4	297.1	513.6	790.0	1066.3	1441.7	1908.5	2066.3	2130.5
22.5°	99.0	103.4	118.6	157.8	313.4	652.9	1021.7	1491.8	2080.4	2273.0	2339.4
25°	84.9	88.1	96.8	116.4	181.7	489.6	967.3	1579.9	2280.7	2513.5	2529.8
27.5°	72.9	76.2	83.8	99.0	129.5	329.7	889.0	1683.3	2520.0	2724.6	2713.7
30°	62.0	66.4	74.0	84.9	102.3	223.1	743.2	1787.7	2696.3	2860.6	2843.2
32.5°	53.3	56.6	63.1	72.9	84.9	153.4	558.2	1856.3	2843.2	2989.0	2950.9
35°	43.5	46.8	52.2	60.9	68.6	108.8	422.2	1858.5	2994.4	3147.9	3052.1
37.5°	34.8	37.0	42.4	50.1	56.6	84.9	310.1	1822.6	3181.6	3354.6	3167.5
40°	26.1	29.4	34.8	41.3	47.9	71.8	231.8	1735.5	3364.4	3561.3	3306.7
42.5°	17.4	21.8	27.2	33.7	45.7	57.7	163.2	1590.8	3512.4	3745.2	3442.7
45°	10.9	14.1	20.7	28.3	46.8	45.7	108.8	1417.8	3617.9	3885.6	3535.2
47.5°	5.4	8.7	15.2	27.2	41.3	33.7	67.5	1252.4	3713.7	3967.2	3577.7
50°	1.1	3.3	10.9	33.7	34.8	25.0	44.6	1149.0	3763.7	3946.5	3573.3
52.5°	0.0	0.0	7.6	32.6	25.0	19.6	34.8	1133.8	3842.1	3973.7	3648.4
55°	0.0	0.0	3.3	14.1	14.1	16.3	30.5	1113.1	3981.4	4135.9	3874.7
57.5°	0.0	0.0	0.0	6.5	8.7	13.1	28.3	1058.7	4128.2	4307.8	4150.0
60°	0.0	0.0	0.0	3.3	5.4	10.9	25.0	934.7	3993.3	4308.9	4378.5
61°	0.0	0.0	0.0	3.3	4.4	9.8	22.9	891.2	3872.5	4239.2	4406.8
62.5°	0.0	0.0	0.0	1.1	3.3	7.6	19.6	805.2	3691.9	4127.2	4393.7
65°	0.0	0.0	0.0	0.0	1.1	4.4	15.2	650.7	3390.5	3845.3	4243.6
67.5°	0.0	0.0	0.0	0.0	0.0	1.1	9.8	458.1	2957.5	3526.5	3922.6
70°	0.0	0.0	0.0	0.0	0.0	0.0	4.4	265.5	2382.9	2985.7	3360.0
72.5°	0.0	0.0	0.0	0.0	0.0	0.0	2.2	120.8	1546.2	2305.7	2650.6
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	51.1	952.1	1665.9	1980.3
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.9	645.2	1108.8	1332.9
80°	0.0	2.2	1.1	0.0	0.0	0.0	0.0	8.7	397.2	692.0	751.9
82.5°	0.0	1.1	1.1	0.0	0.0	0.0	0.0	0.0	205.7	488.6	498.3
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	86.0	103.4
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	285°	295°	305°	315°	325°	335°	345°	355°	359°	360°
0°	2085.9	2085.9	2085.9	2085.9	2085.9	2085.9	2085.9	2085.9	2085.9	2085.9
2.5°	2299.2	2305.7	2310.0	2302.4	2255.6	2229.5	2177.3	2119.6	2100.0	2094.6
5°	2433.0	2470.0	2463.5	2413.4	2331.8	2231.7	2107.6	1979.3	1930.3	1911.8
7.5°	2406.9	2503.7	2522.2	2470.0	2331.8	2156.6	1977.1	1824.7	1754.0	1735.5
10°	2274.1	2396.0	2454.8	2438.4	2308.9	2106.6	1885.7	1698.5	1621.3	1597.3
12.5°	2145.7	2263.2	2300.2	2313.3	2242.6	2067.4	1840.0	1638.7	1558.2	1527.7
15°	2059.8	2132.7	2130.5	2154.4	2149.0	2052.2	1869.4	1669.1	1578.8	1538.6
17.5°	2031.5	2009.7	1981.4	2001.0	2039.1	2056.5	1965.1	1778.0	1672.4	1625.6
20°	2048.9	1942.3	1880.2	1879.1	1959.7	2092.4	2105.5	1957.5	1858.5	1795.4
22.5°	2138.1	1908.5	1812.8	1814.9	1914.0	2145.7	2267.6	2192.5	2083.7	2005.4
25°	2269.8	1915.1	1786.7	1799.7	1909.6	2192.5	2442.8	2460.2	2320.9	2252.4
27.5°	2403.6	1971.6	1787.7	1801.9	1928.1	2217.5	2542.9	2657.1	2537.4	2452.6
30°	2497.2	2041.3	1807.3	1822.6	1957.5	2237.1	2581.0	2819.3	2695.2	2600.6
32.5°	2585.3	2113.1	1838.9	1854.1	2016.2	2277.4	2652.8	2982.5	2846.5	2752.9
35°	2671.3	2183.8	1897.6	1924.8	2110.9	2350.3	2725.7	3174.0	3060.8	2931.3
37.5°	2745.3	2262.2	1998.8	2056.5	2239.3	2462.4	2824.7	3391.6	3275.2	3130.5
40°	2807.3	2354.6	2207.8	2272.0	2435.2	2581.0	2934.6	3534.1	3456.9	3301.3
42.5°	2857.3	2517.9	2507.0	2597.3	2711.5	2717.0	2966.2	3602.7	3573.3	3435.1
45°	2941.1	2810.6	2899.8	3047.8	3040.1	2880.2	2957.5	3665.8	3668.0	3550.5
47.5°	3078.2	3177.2	3435.1	3535.2	3484.1	3103.3	2966.2	3727.8	3776.8	3684.3
50°	3274.1	3592.9	3930.2	4063.0	3913.9	3327.4	3043.4	3801.8	3949.8	3882.3
52.5°	3441.7	3907.4	4387.2	4505.8	4302.3	3566.8	3224.0	3961.8	4181.6	4159.8
55°	3681.0	4178.3	4712.6	4804.0	4640.7	3837.7	3466.7	4196.8	4436.2	4447.1
57.5°	3925.9	4423.1	4924.7	5017.2	4893.2	4175.0	3811.6	4534.1	4675.6	4672.3
60°	4197.9	4651.6	5020.5	5071.6	5000.9	4512.3	4182.7	4843.1	4839.9	4764.8
61°	4353.5	4724.5	5014.0	5029.2	4960.6	4611.4	4374.2	4961.7	4863.8	4764.8
62.5°	4525.4	4790.9	4933.4	4882.3	4808.3	4646.2	4651.6	5091.2	4880.1	4727.8
65°	4699.5	4624.4	4562.4	4317.6	4247.9	4326.3	4885.6	5042.2	4781.1	4563.5
67.5°	4401.4	3962.9	3829.0	3583.1	3307.8	3627.7	4663.6	4743.0	4447.1	4157.6
70°	3597.3	2911.8	2752.9	2744.2	2546.2	2897.6	4113.0	4055.3	3690.8	3425.3
72.5°	2819.3	1986.9	1770.3	1820.4	1781.2	2159.9	3364.4	2721.3	2366.6	2189.3
75°	2209.9	1412.4	1218.7	1210.0	1167.5	1471.1	2463.5	1434.1	1183.9	1057.6
77.5°	1458.1	1017.4	1014.1	936.9	904.2	797.6	1105.5	574.5	469.0	473.3
80°	840.0	623.5	731.2	580.0	581.0	467.9	447.2	83.8	67.5	49.0
82.5°	482.0	299.2	226.3	89.2	187.2	187.2	35.9	1.1	1.1	2.2
85°	46.8	14.1	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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